DOCUMENT RESUME

ED 265 649 EA 018 145

AUTHOR Gappert, Gary
TITLE Theory Z and American Education in an Advanced Industrial Society.
PUB DATE Oct 82
NOTE 39p.; Report prepared for the American Institute of Architects.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Architectural Character; *Economic Change; *Educational Facilities Design; Educational Needs; Educational Trends; Elementary Secondary Education; *Futures (of Society); Models; *Sociocultural Patterns; Socioeconomic Influences; *Technological Advancement
IDENTIFIERS *Theory Z

ABSTRACT

Suggesting that a major socioeconomic transformation is underway in American society, this paper discusses seven elements of an emergent post-affluent society: (1) the demographic effects of the "baby boom" generation; (2) the emergence and recognition of a post-affluent consciousness; (3) the recognition of the transcendental nature of many wants and needs; (4) the related reforms in households and workplaces; (5) transformation in sex roles toward an androgynous culture; (6) continuing discontent with unequal distribution of income; and (7) patterns of uncertainty and indecision among large-scale organizations including the federal government and Fortune 500 corporations. The results of this transformation may depend on the success of Theory Z and the achievement of a new "System Z," which will be dependent upon, and dominated by, information-intensive technologies. Effective education and training will be essential to the achievement of greater productivity and a new prosperity. It is also suggested that the emergence of a new "high tech" society is partially responsible for the post-modernist movement in architecture and the arts and may influence the design and content of educational facilities as well. (TE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED265649

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Gary Gappert

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Theory Z and American Education in an Advanced Industrial Society

by

Gary Gappert, director
Institute for Futures Studies & Research
The University of Akron, Akron, Ohio 44325
1-216-375-7887

Prepared for the American Institute of Architects, October 1982.

EA 013 145

Executive Summary

American society in the early 1980's seems hopelessly bogged down into an endless economic slump and the hoped-for recovery keeps retreating beyond the economic yo-yo of federal policy. But the economic doldrums are more than a temporary slump and may represent a fundamental turning point in the technostructure of American society.

In this paper seven elements of a post-affluent society are elaborated to suggest that a major socio-economic transformation is underway. The results of this transformation may depend upon the success of Theory Z and the achievement of what is called a new System Z.

This new System Z will be heavily dependent upon, and dominated by, information-intensive technologies. Efficient education and training will be essential to the achievement of greater productivity and a new prosperity. Other characteristics of an emerging new socio-economic system are also elaborated in this paper.

It is also suggested that the emergence of a new "high tech" society is also partially responsible for the post-modernist movement in architecture and the arts and may influence the design and content of educational facilities as well. It is also suggested that since public frugality will continue to affect education and all sectors dependent upon the public purse, the design and renovation of education facilities will need to "celebrate" their underlying significance to both our culture and economy.

The paper ends with some further speculations about the design of educational facilities.

Introduction

Is the glass of the American economy half full or half empty? In the early 1980's, with the largest tax increase in history following the largest tax reduction in history, it is difficult to assess exactly where we are going--up or down on what appears to be the economic yo-yo of federal policy.

It is obviously a time of great uncertainty in our national life. It is less obviously a time of great opportunities, expectations and challenging anticipations. As the Chinese curse puts it--May you live in interesting times.

In this paper we want to (1) examine the nature of the current national dilemma, (2) outline the elements of a new social economic paradigm associated with the development of an advanced industrial society, and (3) speculate about the implications of the success of Theory Z for American Education. The paper concludes with some speculations about the design of learning environments.

The Post-Something Dilemma

Many futurists and other social observers believe that American society is "post-something" but disagree as to "post-what". For the last twenty years or so, Daniel Bell has befuddled us with his notion of a post-industrial society. This metaphor has become extremely pervasive as a framework for analyzing the conditions and problems of contemporary society.

Others feel that the future is technologically determined and inevitable. Alvin Toffler proposes a society of electronic cottages and Marilyn Ferguson reveals the "Aquarian Conspiracy." To these observers the apparent social disarray is just the prelude to a new stage of higher consciousness and cultural achievement.

Still other observers believe that the future, especially the American future, is out of control. No one is in charge, there is no conspiracy and even the emerging economic anarchy seems poorly organized.

All these concerns, images and metaphors represent attempts to bring some kind of conceptual unity to the myriad bits of the future emerging around us in contemporary society.

Robert Jay Lifton has suggested that as the sense of change intensifies, the boundaries between history and further evolution are obscured. People seem to be plunging ahead in an unknowable process devoid of clear destination. Then they "suddenly discover, swirling about, the total array of images created over the full course of their historical and evolutionary past." He concludes:

> These images become an elusive form of psychic nutriment, to be ingested, metabolized, excreted and above all, built upon and recombined, in some kind of vital process (1975:137).

The post-something form of analysis has been discussed by Lifton in The Life of the Self as a necessary condition for social or cultural revitalization. He writes:

> Consider for instance, the widespread inclination to name and interpret the contemporary man or woman not in terms of what he or she might actually be but rather in terms of what has been--that is, in terms of what we have survived. We speak of ourselves as post-modern, post-industrial, post-historic, post-identify, post-economic, post-materialistic, post-technocratic, and so forth. There are pitfalls in this way of managing the present (or the future) after what no longer is (or will be), but the terms have an authentic source in the sense of survivorship, present or anticipated, that so pervades our deepest image of ourselves (1975:135).

Lifton suggests that there are several "kinds of technological and cultural holocausts, real and anticipated" hovering over contemporary society. A sense of both loss and survival, in his diagnosis, creates an urgency for innovation and a "task of resymbolization" as "something close to a mass experience."

Images of "economic holocaust" became common in the late 1970's and still persist today, notwithstanding the conservative euphoria over supply side economics.

The framework of a post affluent society developed in the mid-1970's (Gappert, 1979) was one attempt to create a model which could be used to assess the myriad trends and events associated with the fundamental dislocation of the American economy caused by OPEC seizing the internationl resource initiative which accelerated the start of a new international economic order.

The assumption of the post-affluent framework is that the economic events of 1971-74 represent a significant turning point and developmental shift in our society. These events--price controls, the oil boycott, the dramatic increase in energy costs--triggered the start of a post-affluent transition. This transition was preceded by the beginnings of a post-industrial shift out of traditional manufacturing employment. The significant beginning of this post-industrial shift can be symbolized by the Soviet launching of Sputnik in 1957. The American response to that event led to the National Defense Education Act, and to the acceleration of space and defense programs out of which both new technologies and new sunbelt cities have developed.

The post-industrial framework however has lost conceptual vigor as the American economy has evolved towards a further stage of industrial development. The usefulness of the post-affluent framework is also likely to decline if a reconstruction of the American economy is achieved. But we are still in the midst of a transitional phase. The processes of what Schumpeter once referred to as "creative destruction" are still rampant. A restructured economy is not yet here.

The Post Affluent Transition

It is likely that the seven elements of a post affluent framework will remain relevant for the rest of the 1980's. These elements are:

1. The almost overwhelming demographic significance of the Bulge Generation

2. The emergence and recognition of a post-affluent consciousness

3. The recognition if not the acceptance of the transcendental nature of many wants and needs

4. Innovative tinkering and substantial reforms in households and workplaces including social-economic counseling and job redesign

5. The gradual development of synergistic lifestyles in an evolving androgynous culture

6. Discontent and disruptions with respect to agreement on a "just" distribution of income among different socio-economic groups

7. Patterns of uncertainty and indecision among large-scale organizations including the federal government and Fortune 500 corporations

The so-called baby boom population--the bulge generation--gave us the onslaught of 17 year-olds in the late 1960's and an onslaught of new workers in the 1970's. This generation has now started a mini-baby boom (New York Times, September 2, 1980) as its women "race against the clock" to have children. This young adult population occupies the large apartment complexes in metropolitan areas and represents a sizable pent-up demand for metropolitan housing and education in the decade ahead.

Two other demographic issues are also worth noting. For instance, the baby boom population is preceded by the "depression-dent" generation. The 37-48 population cohort (b. 1934-45) is rather thin and may not be able to provide sufficient, high quality senior managers as America prepares for the 1990's.

On the other hand, the second half of the baby boom population is still in school or is just entering the labor market. This has created what has been called the "prolongation of adolescence" as young adults aged 21 to 27 (b. 1955-61) scramble for positions in the adult world. (When one of the Kennedy "kids" married sportscaster Frank Gifford's daughter in New York's St. Patrick's Cathedral, the wirephoto caption ended: "Both youngsters are 24.") This expansion of "adult youngsters" in our metropolitan areas is a new market

phenomena which is likely to have unforeseen consequences, especially in lifestyle arrangements, marketplace behavior and value development.

Another demographic reality is the growing number of elderly. The age 65 and over cohort group will grow from about 25 million in 1980 to 30 million in 1990 but only to about 32 million by the year 2000 (the depression dent). But their ratio to the rest of the population will remain stable at about 11-12 percent for the rest of this century. A sharp increase in the proportion of the elderly population will not occur until the second decade of the next century when the baby boomers reach retirement age.

The second element of our post affluent society is simply the growing awareness of post-affluent consciousness.

Yankelovich points out that:

> 72 percent of the public now believes that 'this land of plenty is becoming a land of want'. . . . A majority of Americans now state that ten years from now they don't think they will be able to buy a new car or to own a home of their own.

He continues:

> Even the 40 percent or so of the public whose incomes have more than kept up with inflation and are therefore objectively better off than they were, don't feel better off.

Affluence,[1] if it means anything at all, means some control over discretionary income. It means having a regular surplus at the end of each month and at the end of the fiscal year.

As was written in Post Affluent America:

> In 1973-75 the expectations of the American middle class were shattered. Within those two years, the purchasing power of the dollar shrank by nearly 20 percent, the value of household savings and other wealth and assets decline about 12 percent, and the size of household debts rose by over 18 percent (p.46).

---

[1]From Latin affluens, present participle of affluere, to flow to.

Since that time both our governmental and personal indebtedness have increased, as has the number of our Eurodollars and petrodollars held abroad.

John Nevin, President of Firestone Tire and Rubber Company, has recently reminded us that

> Huge trade deficits are a recent phenomena in American history. During the five year period immediately preceding the 1973 oil crisis, American trade deficits averaged only $1.1 billion annually. During the five year 1977-81 period, American deficits averaged $27.9 billion annually (1982).

The involuntary decreases in the standard of living have been partially absorbed by the transition of many families from being one-wage to two-wage households. But unless we change the child labor laws, we have run out of potential new wage earners in most families, and "multiple job holding" has become another consequence of the post-affluent transition.

Unfortunately the significance of a post-affluent consciousness is not widely held by our national leadership. The current version of supply side economics is still oriented to the assumption that a shift of resources from the public sector to the private sector will guarantee a substantial increase in our standard of living. A <u>real</u> supply side economics would emphasize the need to reduce and postpone consumption, to increase savings and investment, and to reduce our trade deficit. Otherwise, everything points to a further decline in living standards in the decade ahead.

This brings us to the <u>third element</u> of a post-affluent society and that is <u>the changing and evolving nature of economic needs and wants</u>. The American consumer, faced with the shrinkage of his or her discretionary dollar, is engaged in an agonizing re-evaluation of basic needs and wants. The downsizing of the American automobile is one sign of this, as is the dramatic decrease in oil imports. In 1977 the U.S. imported 8.5 million barrels a day; by 1981 oil imports had dropped to 6.1 million barrels.

The rest of the 1980's will see the comparable downsizing of the American home. Over the 1960-80 period, residential househeating bills comprised 1.5% or less of real disposable income in American households. Total decontrol in 1985 will increase househeating share of disposable income to about 3.2 percent. The impact will be even greater at the lower income end of the scale where households earning less than $15,000 a year will spend 7 to 14 percent of their disposable income on househeating.

The downsizing of the American house has already implicitly begun as members of the baby boom population remain tied to the large apartment complexes which ring our central cities. The growth of personal storage centers in adjacent areas is a good example of the marketplace responding to opportunity.

Bruce Stokes of the Worldwatch Institute has analyzed housing prospects which include an increase in higher density urban living and the growth of a market for "fourplexes" and "sixplexes"--large houses divided into four or six separate units. As is already common in Europe, many units will be sold with several unfinished rooms, which allows the purchaser to finish it when time and resources permit.

Other re-evaluations are also going on in the marketplace as distinctions are made betwen "absolute needs" and those "which are relative." A secondary consequence of these involuntary market adjustments are the growth of "conspicuous frugality" and "voluntary austerity" as social values.

Elsewhere we have contrasted a Hobbesian future with a more Emersonian future. The Hobbesian future will be "nasty, brutish, and unstable." (Blair and Gappert: 1976). The Emersonian future is characterized by a view of material wealth as a means for attaining more satisfactory lifestyles and varieties of human experience rather than as an end in itself. Among the features of the Emersonian future are (a) a flourishing human potential

movement; (b) a variety of alternatives to traditional work; (c) intolerance of conspicuous consumption and waste; and (d) a broadening of the educational process.

The fourth element in our post affluent framework is the relationship between reforms and readjustments in both households and workplaces.

The quality of work issue is not new. What is new is that the decline of American productivity has led American business to re-examine some of the job enrichment literature of the 1950's and 60's which was ignored when American prosperity seemed boundless. Simultaneously American labor is also being forced to re-examine their demands at the bargaining table.

Some of the "Give back or shut down" issues are tied directly to cost-cutting productivity issues. Others are tied to the realization that the workplace is also a social environment. Still others are related to the motivational environment in which the new knowledge workers (and many factory jobs are now knowledge intensive) are best utilized.

These quality of work isues also exist in the new social context of the two paycheck family and the single parent household. As S. B. Linder points out in The Harried Leisure Class, our household time budgets are even more inflexible than our fiscal budgets. Part of the surprising success of the fast food industry is attributed to the growth of the two paycheck family.

The emergence of concerns with both "stress management" and "parenting skills" can also be attributed to pressures on our time budgets. Part of the attraction of the "electronic cottage" lies in the potential flexibility of a continuous readjustment of time allocations between different forms of work.

A fifth element of post affluence is the gradual development of synergistic lifestyles in an evolving androgynous culture. Social and economic roles for both sexes will be more balanced and more evenly distributed. As Stephen Young

and Michael Willmolt have written, "one of the greatest social changes of modern times is the move towards symmetry between the sexes." They refer to the "mid century alliance of family and technology" and note:

> In the course of time the family has re-established a new kind of primacy, not as the unit of production so much as the unit of consumption (p. 14).

The readjustment of family structures and gender roles is of course mirrored by the new structure of the work force. By 1990 it is projected that almost half of the labor force will be women. (This is one way to introduce another post-something construct. This is the idea that the emerging social system can be usefully characterized as "post-masculine," or "post-macho.") The society in fact is going to become much more androgynous and will feature a better manifestation of the best characteristics of both sexes.

Symmetrical families, the androgynous workplace, the assertion of equal rights, etc. are also forces which generate counter trends. Male anxiety and new concens about the nature of masculinity are emerging and will also be social forces in the decade ahead.

This leads us to the sixth element which is the continuation of discontent with respect to equity issues. "Who gets what and why" will be a question which reemerges in different forms in the 1980's. Stockman's statement that supply side economics was just old-fashioned trickle-down economics is one manifestation of that.

Another emerging issue which will be stronger in the 1980's is a question of regional equity between the snowbelt and the sunbelt. The second half of the baby boom population will further fuel the migration to southern and western states, and proposed inter-basin sales of water will further exacerbate greenbelt-brownbelt frictions.

A second interesting issue is the language of the President's Commission For a National Agenda for the Eighties. Its report refers to "a nearly permanent urban underclass." The word "nearly" hardly qualifies the word "permanent." But the nature of that urban underclass may be more dynamic as a black middle class expands and as well paid factory jobs contract.

What is less clear is whether the growth of substantial structural unemployment is going to transfer into working class anger or only resignation. Our colleagues in Youngstown refer to the "stunned immobility" when a plant closes. The full effects of economic dislocation are not yet apparent.

This brings us to the last element of a post-affluent society which is the pattern of uncertainty and indecision among our major institutions, both public and private.

This element has many manifestations including the turnover of our politial leadership structure in the 1980 elections. But this turnover is paralleled by the now almost weekly dismissal of chief executive officers by American corporations. According to Eugene Jennings, professor of management at the University of Michigan, the dismissals of corporation presidents since the late 1970's is unprecedented in the history of American business.

This leadership gap or apparent leadership failure is strongly related probably to the growth of environmental turbulence. New public expectations as well as shifting values and markets have reduced the predictability for organizations in both the public and private sector. "Business as usual" is a phrase that no longer applies almost everywhere.

In addition the 48-65 cohort is a generation that has almost been exhausted by change. They grew up in the Depression, they survived World War II, and they saw the "Peace and Prosperity" under Eisenhower shattered by racial conflict, assassinations, limited warfare and the social changes of the

1960's. But this is also the group which managed growth in the 60's and contributed to the invention of futures research, strategic planning and technology assessment in the early 1970's.

Summing Up

We may repent some of these constructions of the post-affluent future. This picture of the post-affluent transition is not a photograph. This portrait was begun as a series of drawings in 1972-73. The paint is still wet. This portrait of the future may be redone. This way of seeing may change as the future is lived. The experiences of the future may change the meaning of it for us (Pentimento!). But we must seek to start with some picture of the future.

But increasingly the picture of a post-affluent society is not a picture of the future but an expression of the present economic doldrums. It is perhaps timely to (a) accept the post-affluent framework as a useful interpretation of current realities, and (b) generate a more optimistic vision of what economic recovery will generate at some point in, hopefully, the near or medium term future. Let us turn to a discussion of a new form of prosperity.

A New Prosperity Paradigm

Recent research from several sources (Knight, 1979; Bradshaw, 1978; Hamrin, 1980) can be used to identfy an emerging but elusive picture of the economic future of these United States. This is the idea of an advanced industrial society. There is more than a faint hint that we might be experiencing the start of another long wave of economic development. Could the American economy be on the verge of another great surge of prosperity based upon the new information, communications, medical and biological technologies?

The controversial futurist, Herman Kahn among others, have begun to herald a forthcoming economic boom. Heilbroner and other more seasoned economic observers, while sanguine about the future of capitalism, have begun to identify the massive institutional efforts which will be required to achieve a new, lasting and stable economic prosperity. These efforts are symbolized on the "right" by the attempt to secure a Balanced Budget Constitutional amendment and on the "left" by discussions about credit allocations, wage-price control mechanisms and some kind of new Reconstruction Finance Corporation. In the "center" is the new legislation introduced by Gary Hart among others for an American Defense Education Bill.

The emergence of a new and more dynamic national economic prosperity has been obscured by the normal short-sighted economic debates having to do with (a) quarterly corporate earnings, (b) the annual federal budget, and (c) the monthly behavior of the Dow-Jones Index, interest rates, the rate of inflation and unemployment statistics.

These short-sighted concerns have deflected attention from other significant national economic developments which include--

--the tremendous expansion of the American employment as the national labor force expanded with the influx of the baby boom generation and women of all ages;

--the substantial shortfall in technically trained American labor which has been met by a substantial influx of educated immigrants or young student immigrants flooding our technical and engineering educational insttutions;

--the expansion of a global manufacturing economic system which will insure that large numbers of unskilled and semi-skilled manufacturing jobs will be perhaps forever lost to the American worker;

In Post Affluent America it was noted that our labor force was expanding at a rate of 68,000 jobs a week. Unfortunately, the labor force was expanding even faster, at a rate of 72,000 workers a week, creating a job shortfall of 4,000 jobs. Therefore we have had a steady increase in the unemployment rate.

But even in July 1982, when the nation's jobless rate rose to 9.8 percent, the highest since before World War II, this rise was caused primarily by a growth of 330,000 workers in the civilian labor force because total employment shrank by only 12,000 jobs (net) to slightly under 100,000,000 total employment.

It might also be remarked that in mid-1982, total employment in the so-called service industries surpassed for the first time total employment in manufacturing, mining and construction. (New York Times: July 6, 1982). It is important to note however that much of that service sector activity provides technical support (legal, financial, engineering, etc.) to manufacturing enterprises.

The evidence however is not yet conclusive that a new wave of American prosperity will in fact develop or will be strong enough to provide "a rising tide that will float all boats." In this particular context we do not care to debate the probability of its occurance. Instead we wish to outline the elements of a new social economic paradigm which might be associated with the emergence of an advanced industrial society if it in fact does develop as the elusive economic recovery of the mid-1980's leads us through a major transformation of our socio-economic technostructure and the achievement of a "new prosperity."

The Advanced Industrial Alternative

A model of an advanced industrial society can be developed as an alternative framework for the interpretation and projection of emerging trends and realities in American society.

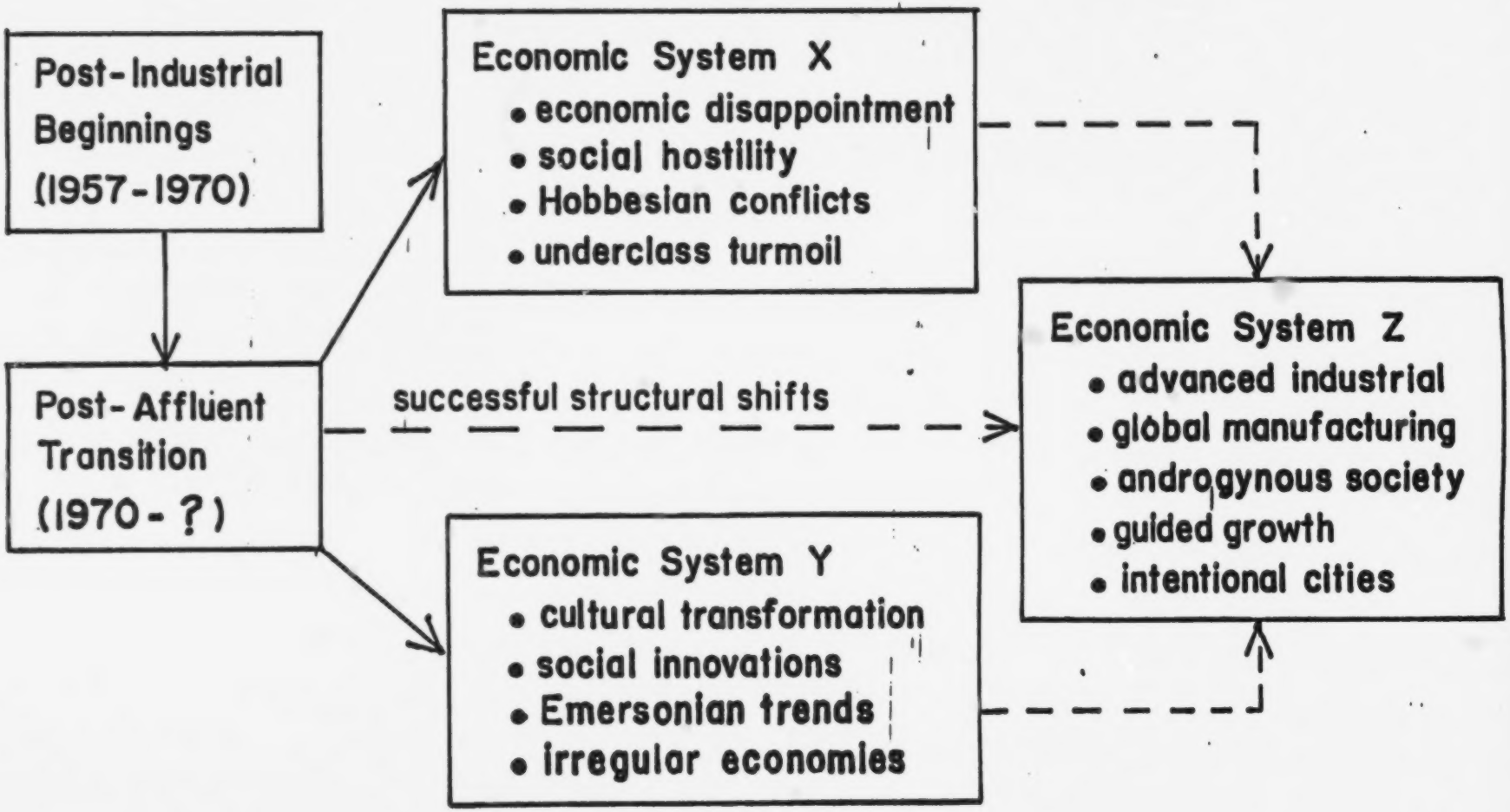
As shown in Figure 1, there are at least three different ways to perceive the social-economic future. The first perspective, System X, assumes that issues of economic productivity and efficiency will lead to both fiercer competition and greater disappointment unless the vitality of the national economy dramatically improves. In this perspective we can expect more outbreaks of social hostility and underclass turmoil.

The second perspective, System Y, assumes that although the growth rate may decline, the underlying strength of the national economy is undiminished even though individual gains take longer to achieve. In this perspective individual and household pursuit of purely economic objectives are postponed, deflected or sublimated by activities associated with quality of life concerns. Cities and suburbs both contribute to the growth of self-reliance and a self-directing social transformation.

Substantial elements of both System X and System Y exist today as part of a constrained economy. The third perspective, that of a System Z, is more elusive and harder to establish. The key assumption of this perspective is that a new kind of technological-industrial progress is possible, and probable. It assumes that a second Industrial Revolution is at hand based upon technologies that are (1) knowledge intensive, (2) resource conserving, and (3) environmentally benign. Several specialists have made contributions to this perspective.

Perspective On Societal Futures

Figure 1



Hamrin, in Managing Growth in the 1980's, lays out in a comprehensive fashion the elements of an economy centered on information activity. He claims that "the adjective 'information' is more precise than 'service' or 'post-industrial' for describing the fundamental dynamic element that will shape the economy and society of the future."

A critical element in Hamrin's analysis is that the ultimate limits to growth in an advanced industrial society "will basically reflect not resource scarcities but a steadily rising preference for noneconomic endeavors and satisfactions." Developing what he calls a "transindustrial world view," Hamrin also proposes a new paradigm for economic growth in which productivity and technological change are important factors along with capital, labor (human resources) and land (natural resources and energy). The guiding norm or ethic within his model of an advanced industrial society is "selective growth" as opposed to traditional forms of simple quantitative measures. This suggests that institutions need to make more holistic decisions in the context of long range policy frameworks. Although he is pessimistic about the prospects for an immediate adoption of such a new paradigm, his use of a return-on-resources decision making model for corporations confirms the need to explore different forms of innovative management more appropriate to the changing realities in an advanced industrial society.

Hirschhorn, at the Wharton School in Philadelphia, offers yet another perspective. His reference point is the idea of "advanced capitalism" as distinct from traditional forms. He claims that "there is increasing evidence that capitalism is entering a new historical phase of disaccumulation in which the wage labor system is contracting and the accumulation of variable capital is coming slowly to a halt." Coincident with this, a new work system, new productive sources and new sources of productivity are emerging which are not

consistent with traditional categories of economic classification. The problem which Hirschhorn then goes on to explore is the ways in which older social forms and institutional structures may stifle the developmental processes emerging in an advanced form of capitalistic or industrial society.

Hirschhorn attempts to develop a model of the advanced industrial labor process based upon seven related hypotheses. A key issue for him is the distribution of intelligence and information in work systems and the ways in which advanced technologies diffuse and change the management functions. He concludes that:

> It is urgent that research within this framework be developed so that we do not pursue obsolete lines of thought on the one side and are prepared for genuinely new and emergent possibilities, and conflicts, on the other.

Knight, analyzing employment expansion in several older metropolitan regions including Cleveland, has also developed a perspective on industrial transition and transformation.

Knight's model is based upon the assumption that the large industrial corporations have reached a stage where their "technology transfer" functions have expanded their multinational status in a global economy which has grown by a factor of 3 in the last decade while world trade has increased by a factor of 7. This has both generated new streams of real income into older regions and the export of traditional production jobs to other states and nations.

Two constructs are essential to Knight's analysis. The first focuses on the "changing nature of industrial knowledge" to include such elements as research and development, environmental constraints, international marketing and transfer of technologies, etc. The second is the "changing nature of social and cultural development" as industrial communities either decline or evolve into a higher stage of development.

Other efforts to formulate the social and economic consequences of a new wave of technological development can be found in Ouchi (1981), Mensch (1982) and Masuda (1980). All suggest a new economic system based upon knowledge intensive technologies.

In the absence of any "policy" which advocates, or even just articulates, the nature of such a different socio-economic system organized around new technological opportunities, the question is will such a system emerge anyhow?

One answer is: Let's wait and see. Another is: It's happening already. But in either case even the mere possibility of an advanced industrial economy and society offers a more dramatic set of opportunities to education than the grim sense of decline associated with the post-industrial construct.

If one accepts the realities of the current post-affluent condition, but still appreciates the dynamic qualities of American society, its economic strengths and its technological opportunities, then it becomes possible to concentrate on the identification and elaboration of new roles and opportunities in the new order of things. But many are not yet either cognizant of, or comfortable with, the new realities and opportunities.

Kevin Phillips has recently written:

> Two decades of political and economic trauma have brought this country to a point of considerable risk. . . . In an era of upheaval like our own, there is no going back, no real way to recapture the past. . . . To future historians, the early 1980's are almost certain to mark a transition to a new politics, a new economics, and a new philosophy of governance.

But the transition is not yet concluded and perhaps the transformation has not yet begun. Therefore it is still difficult to forecast the exact nature of our social economic development between now and the 21st century. But Theory Z offers a significant starting point.

Theory Z and National Choices

The Theory Z perspective represents an initial effort to propose the possibility and elements of a new national synthesis. As John Dewey once wrote, "In any experiment of thinking, premises emerge only as conclusions become manifest." A new national synthesis will only be achieved as it is attempted even if its manifestations are not clear.

It is difficult but not impossible to think about the manifestation of social and economic change in the 21st century. But although many of us have 25 or 30 year mortgages, we seldom have reason or the inclination to think in that long of a time framework. But the next 25 years will take American education from 1982 to 2007 A.D. What does that time include?

It includes probably:

- Six more presidential elections;
- A period of time equivalent to the launching of Sputnik (1957) to the present;
- The aging of the baby boom generation through their midlife years;
- The development of an increasingly global economy;
- A generational transfer of power.

It is also a period of time in which a new kind of city will develop, a world class city, a city that will be transnational in many of its transactions. And American education will face tremendous opportunities and changes as our society develops a need for institutions that can (1) manage knowledge, (2) promote innovation, (3) guide scarce resources towards strategic priorities and (4) protect human dignity.

Within this emerging context the Theory Z perspective developed by Ouchi (1981), Gappert (1979) and others can be a significant framework for developing a new perspective.

Ouchi has suggested that:

> A Theory Z culture has a distinct set of such values, among them long term employment, trust and close personal relationships. . . . Of all its values, commitment of a Z culture to its people--its workers--is the most important.

Ouchi's development of a Theory Z framework grew out of his work with a number of corporations, based primarily in California (a System Z state?) where Japanese management practices had been adapted to the American context The resulting synthesis was dubbed "Type Z" in an intentional reference to the Theory X and Theory Y management styles which were originally characterized by Douglas McGregor in his seminal study The Human Side of Enterprise.

McGregor argued that much which is important about a manager can be understood by knowing that manager's underlying assumptions about human nature and society. McGregor felt that these assumptions were primarily of two kinds, which he labelled "Theory X" and "Theory Y" assumptions. A Theory X manager assumes that people are fundamentally lazy, irresponsible, and need constantly to be watched. A Theory Y manager assumes that people are fundamentally hard-working, responsible, and need only to be supported and encouraged.

With the advent of the so-called knowledge worker, the simple Theory X and Theory Y distinctions are no longer adequate and a new Theory Z is necessary to accommodate the Information Revolution. The formulation of a Theory Z is also motivated by the need to understand "how the structure of society and the management of organizations can be coordinated." There is a perception that the growing dichotomy between one's workstyle and one's lifestyle creates too much stress and social disfunction (alcoholism, drug misuse, spouse abuse, workplace vandalism, white collar crime, etc.).

Theory Z, a Z Culture, System Z, are all emerging because of a growing national and cultural perception that a more humanistic integration of new forms of workplace needs with new levels of personal and psychological fulfillment will be required in the 21st century. But, in contrast with the System Y perspective, a Theory Z perspective is more cognizant of economic concerns and global competitive realities.

The Elements of System Z

A System Z perspective which suggests the possibilities, and the prospects, of a new and "higher" stage of industrial development might include these seven elements:

--a growth in national productivity due in part to the maturing of the baby boom labor force;

--the further utilization and expansion of knowledge-intensive and resource-conserving technologies;

--a reorientation of consumer behavior towards a greater apprecation of frugality and self-reliance;

--the acceleration of new forms of workplace organization, with social objectives and compatible recurrent learning requirements;

--the articulation and application of new personality theories which recognize the multidimensional nature of the "self" in an androgynous society;

--the development of new mechanisms of income redistribution, including unorthodox sources of 'second' income;

--the formulation of new styles of management and new forms of policy development which recognize emerging global realities.

These elements of an advanced industrial society--of a new kind of social economic system--must be elaborated further. They suggest that "growth" and "development" could be directed or guided towards some definite social and

economic goals at different levels of our society over some period of time. Unfortunately, such a system of "guided growth" is not consistent with much of the current national rhetoric. These elements can also be shown to flow out of the elements of the post-affluent transition as shown in Figure 2.

System Z, representing the sucess of the humanistic efficiency of a Theory Z perspective, is not inconsistent with some of the job enrichment programs initiated in the 1950's and 60's. But it is not consistent with the "Greening of America" or some of the other "laid-back" fantasies of the early 1970's. The achievement of a System Z will require economic determination, social energy and political genius, to say nothing of a great deal of organization, innovation and changes.

But the manifestations of social and economic change in the next two decades are not impossible to define and are suggested in Figure 2. For the next decade or so, a young adult (under-40) population will occupy our cities, with growing demands for recurrent education and training. A new national economic expansion driven by information-intensive technologies and the expansion of global business services should be underway by the early 1990's. New biotechnologies will dramatically increase the American capacity to export high tech agriculture products and new medical technologies will increase the prospects for extending the span of life. The marketplace reorientation to conservation, self-reliance, amenities and quality of life issues will be further along.

Theory Z planning will displace strategic planning as the dominant workplace mode as the midcareer crunch and the midlife crisis of the baby boom population assumes epidemic proportions in the early 1990's. At the same time the expanding needs of the "self" will increase the utilization of new personality theories such as that provided by Ogilvy in his underread classic,

Figure 2

The Dynamic Emergence of A SYSTEM Z

Post Affluent Transition		Advanced Industrial Condition
1. Dominanance of Baby Boom population	→	1. Higher productivity from the Young Adult learning force
2. Post-Affluent consciousness	→	2. Acceptance of new knowledge-intensive, resource conserving technologies
3. Recognition of the transcendental nature of many needs and wants	→	3. Reorientation of consumer behavior towards frugality and self-reliance
4. Tinkering with household and workplace reforms	→	4. Dramatic reorganization of workplaces with Theory Z concerns and Theory Z planning
5. Emergence of new synergistic lifestyles to reflect androgynous values	→	5. Widespread application of new multidimensional personality theories which appreciate the needs of the "self"
6. Discontent over income distribution	→	6. New mechanisms of redistribution including the expansion of the "underground" economy
7. Confusion in large organizations, corporations and governments	→	7. New forms of System Z policy and management

Many Dimensional Man. Furthermore, the neighborhood garage sale, flea market and clothing exchange will become significant components of the recycling and underground economies. And also significantly, new political leaders will emerge with new policy innovations as the Baby Boom population increases their political participation in the elections of the late 1980's and early 1990's. But other changes are also in sight.

Cities will be more polynucleated, with the development of more multiple activity centers, multiple use megastructures, and medium density planned housing unit developments. Large tracts of sub-standard housing are likely to be replaced by new towns-in-town while older, solid housing stock will continue to experience gentrification. Urban farming, woodlots and fishponds will not be unusual.

Individual housing units will find their design influenced by the conversion of "family rooms" into work-study centers and by the use of passive solar techniques. The distinction between work and leisure will begin to break down for several kinds of workers. At the same time the growth of "involuntary leisure" time among the elderly, the young and the semi-skilled will require new social inventions for its constructive utilization. The more efficient and effective use of urban space, both internal and external--private and public, will follow some of the innovative design arrangements in European cities. The post modernist, neo-romantic schools of urban architecture are likely to flourish as the members of several generations of urban citizens become more urbane consumers.

Indeed, the post-modernist school of architecture specifically and post-modernism in general reflect interesting manifestations of how American culture is responding to the post-industrial, post-affluent conditions of our times.

As John Russel has recently written (New York Times, August 22, 1982), "What has been kept out of modernism--illustration, story telling, a deliberate incongruity, esthetic bad manners--is often fundamental to post-modernism."

The architecture of Robert Venturi is probably the most illustrative manifestation of the post-modernist form. His buildings combine the use of new technologies with "fantasy, wit and a vernacular idiom." Venturi's architecture reflects an interesting blend of both a high tech style and some postmodernist forms. His Benjamin Franklin museum in Philadelphia is an interesting combination of both a postmodernist respect for the archaeological value of the site and the striking use of a high tech style.

But, most significant, that museum, primarily underground with a park above it, and with an elaborate use of visual and verbal technologies is also an educational "experience" which is totally compatible with the suggestion of a System Z society and culture. It doesn't reject technology; the museum embraces it and places it in an almost sensual environment, and all in service to the memory of a man who lived in the 18th century!

It is likely that as the advanced industry society of the 21st century unfolds, post-modernism will flourish and may even lead to a neo-romantic style or a more exaggerated style of advanced romanticism. Environments which are dominated by, and dependent upon, advanced technologies will cry out for a deliberate humanistic quality.

And so will our workplaces, our households and certainly our schools!

The straight-edged, sprawling, monolothic, impersonal and deornamented educational complexes which "contained" the student explosion of the baby boom population of the 50's and 60's will never be built again, at least in the United States.

But what will take their place?

The Educational Impact of System Z

Educational change, when it happens, follows from cultural change, societal need and economic demand. Any good educational historian will deprecate the role of educational institutions in leading the change process. Instead the schools are expected to develop and adapt the innovations required by a changing external environment. The Common School was developed to socialize diverse European immigrants and to teach them English. The Carnegie credit unit was developed so that personnel offices could compare educational transcripts from high schools and colleges. Open classroom designs were developed to contain the large number of students of the 1950's just as new supermarket structures were used to accomodate the new throngs of suburban shoppers.

The Stanford Scholar, Henry Levin, has formulated what he calls the "correspondence principle" between educational form and function and societal need. As he writes,

> According to the correspondence principle, educational reforms become probable when the existing educational approach and its results are contradicted by changes in the functioning of work organizations. In such an instance educational reform represents a response of the educational system to the contradiction which has arisen. (1975:p.86)

The basic premise underlying the Correspondence Principle is that schools and other agencies of socialization serve to reproduce the social relations of production organizations. Therefore, if Theory Z concepts are successful in workplace reorganization as new technologies are introduced, innovative workplaces should become models for educational reforms and innovations.

Some have suggested that American schools have, in the 20th century, been charged with preparing an "industrial worker" who accepts the discipline of the industrial and corporate organization. In the future, Theory Z workplaces will require a self-motivating, knowledge worker who can move from electronic routines to creative interaction with other peer specialists.

Rapidly changing job structures and new educational patterns are both essential to the success of Theory Z concepts, as are the reorganization of other socio-economic activities including the better planning of different kinds of leisure time. Leisure time, for instance, now includes such diverse forms as active relaxation, passive behaviors, maintenance activities, stress reduction, intimacy and different forms of learning and preparation for learning and creativity.

The learning leisure interface will be an important object of research in the decade ahead. The knowledge worker does not become more successful by working "harder" but by being more "creative." New corporate programs in creativity are rising all around us. What does this mean for education and public schooling?

Creative people require privacy at times and interaction during other periods. They also need to engage in trust-enhancing transactions and will require environments that facilitate such transactions. The current fad to "rationalize" education by downgrading it to "rampant vocationalism" is contributing to the retardation of our society. That fad is akin to the generals struggling to prepare for the last war.

But a Theory Z system of education is only now beginning to emerge and the evidence is faint to detect. Meanwhile, state legislatures vote larger appropriations to Theory X facilities such as expanded correctional facilities, while crafts fairs and public art shows attest to the flourishing of Theory Y activities in other areas. Neither reflect the advent of an advanced industrial society.

But Theory Z trends can be detected in such diverse trends as (a) the revolt and reorganization of the pink collar workers (9 to 5), (b) the creation of new multiple use megastructures such as Quaker Square in Akron, Fauneril Hall

in Boston and Harbour Place in Baltimore, and (c) new corporate human development programs and new investments in corporate innovation. It might also be argued that when the Women's Movement combines the best of feminine charm and masculine efficiency (or is it feminine efficiency and masculine charm?) that it provides a manifestation of the emergence of a System Z which clearly will offer society a more androgynyous balance in sexual roles and social relationships. Regardless however, the Correspondence Principle suggests that all these emerging socio-economic manifestations of a new technostructure, whatever their source, will ultimately have influence on educational form and function. In this respect, it is noteworthy that women's collegiate basketball and other female athletic programs followed the emergence of, and did not lead, new workplace roles for women.

The challenge perhaps for those concerned with the future of educational environments is to develop sensitive monitoring abilities to anticipate the further manifestations of an advanced industrial society as a new System Z develops between now and the Year 2000. In this regard a recent article in Business Week (September 26, 1982) discusses new trends in corporate architecture with respect to the contribution of a company building to (a) productivity and (b) image. The article is very suggestive of possible applications to the design of educational facilities.

Concluding Speculations about Educational Design

There are several ways to structure speculations about the design of educational environments and learning sites in the new advanced industrial society which will hopefully be emerging around us.

One way is to speculate about where learning sites might be located. Will communities seek to add classrooms to shopping centers? Will the kind of high tech museum exhibit associated with the Burdick Group in Chicago (The Chevron

Creativity exhibit which toured about 25 cities) become an educational modality in the future? Their combination of electronic devices, graphic visuals and focused information could be incorporated into almost any kind of complex structure and represent a form of postmodernist learning enjoyment.

Alternatively, what shapes and functions will centralized campus environments take as the demands for recurrent education and training in a knowledge-intensive society escalate? Will the young adult learning force have different expectations about learning conditions than did the typical undergraduate? The quality of transactions provided in centralized centers, or facilitated by them, is one of the interesting human design challenges which requires a Theory Z perspective.

Another formulation might suggest that the "electronically isolated" student will seek relief from the lonely routines of a home work-study station by seeking different forms of social affiliation and interaction on attractive campus settings where a sense of community can be developed. Furthermore, in a time of public frugality towards education, (see the Burke paper) will the society need to "celebrate" the centralized learning environment by exaggerating the characteristics of its site? The success of System Z is dependent upon a new appreciation of knowledge-intensive activities and this should be manifested in the design qualities of its important structures. A good example of such a structure is the Academic Center site at George Washington University in the District of Columbia. This site combines both a high tech style and the preservation of three historic town houses. Most important however, the structure includes a pedestrian walkway which faces upon several glass-exposed classrooms which exhibit the instruction process to the casual public passing by. Likewise the four story staircase is glass-enclosed and reveals the passage of students to their classes hour by hour. The structure and site celebrate the educational process.

Simultaneously, older educational facilities will be renovated to include new functions required by a society struggling to reintegrate itself after a decade or so of economic vicissitude and restless, unintended mobility. Meanwhile, the home-based learning station and new workplace learning environments will compete with, but also complement, traditional centralized schooling facilities. Education will take place almost everywhere.

There are different scenarios of change (see the Shostak paper) which can be elaborated to illustrate the ways in which different elements and areas of American society will accomodate themselves to the problems of the post affluent transition and the opportunities of the advent of a some kind of System Z--an advanced industrial society. But most scenarios of change will need to accommodate themselves to new learning demands and the problems of managing the Information Revolution. The information explosion is more likely to create ignorance rather than knowledge unless the culture can restore education to a place of significance in our communities.

The cities of an advanced industrial society--the future metropolis--will be primarily engaged in indirect, and partially abstract, transactional activities, and may be hungry for collective rites to offset social fluidity, economic transience and electronic isolation. It may also be oriented to both material and non-material standards and satisfactions which are integrated on a community and regional scale. In American industrial society, the city has rarely been an acceptable symbol of a collective consumption ethic or of an integrative cultural style which links both pauper and prince. Instead the industrial city has been more of a symbol of the individual struggle for survival or of private success, and of the ethnic competition for control of public resources.

But if we are beginning to develop into some kind of knowledge-driven economy, what is the role of the great urban and metropolitan centers? And what are the roles for American education? As our society continues through a post-affluent transition, it lacks a reliable, predictive evolutionary model of cultural change. National goals and opportunities are changing, and the economic means to achieve the social goals associated with the dreams of affluence in the 1950s and 60s are no longer easily available. What will American culture do?

Simultaneously, American culture will be reaping the consequences of the revolution in gender roles and responsibilities which has occurred since the introduction of birth control technologies in the early 1960's. This has brought about the reinvention of "family" and "household" in rather dramatic ways in many communities (see the Bailey-Brizius paper). In the 1980's as in the 1970's, many Americans are already inventing, and chosing new futures for themselves. Will this new dynamic contribute to a revitalization of American society?

Do we want to choose between drifting into System X, evolving towards System Y, or designing a new System Z? What is our commitment to an urbane civilization which can support networks of social relationships in an atmosphere of pluralistic tolerance, humane subsistence and, dare we say it, technological progress?

Let us agree to create and design environments in which the human spirit will soar and the quest for renewed wisdom will flourish.

References

Bell, Daniel, The Coming of Post-Industrial Society, Basic Books, NY, 1973.

Blair, John P., "Irregular Economies," Chapter 12, Cities and the 21st Century, Sage Publications, Beverly Hills, 1982.

Blair, John P. and Gappert, Gary, "The Problems and Consequences of a Slow/Now Growth Economy," Joint Economic Committee, Washington, D.C., 1976.

Bradshaw, Ted K. and Blakely, E. Rural Communities in Advanced Industrial Society, Praeger Publishers, NY, 1979.

Bradshaw, Ted K., "California As a Post-Industrial Society," Institute of Governmental Studies, University of California, Berkeley, 1980.

Drucker, Peter, Managing in Turbulent Times, Harper and Row, NY, 1980.

Drucker, Peter, "The Shape of Industry to Come," Industry Week, Jan. 11, 1982.

Ferguson, Marilyn, The Aquarian Conspiracy, Personal and Social Transformation in the 1980's, J.P. Tarcher, Los Angeles, 1980.

Gappert, Gary, "The Future of Economic Inequality and the Planning of Urban Services," AIP Journal, May 1973.

Gappert, Gary, Post Affluent America, Franklin Watts, NY, 1979.

Gappert, Gary, Rose, H. M., The Social Economy of Cities, Vol. 9, Urban Affairs Annual, Sage, Beverly Hills, 1976.

Gray, David Dodson, "The Technological Barnyard," Bulletin, World Future Society, April 1982.

Hamrin, Robert, Managing Growth in the 1980's, Praeger, NY, 1980.

Hirsch, Fred, Social Limits to Growth, Harvard University Press, Cambridge, 1978.

Hirschhorn, Larry, Beyond Mechanization: Flexibility and the Theory of Post-Industrial Technology, MIT Press, Cambridge, forthcoming.

Jones, Landon Y. Great Expectations, America and the Baby Boom Generation, Ballantine Books, NY, 1980.

Johnson, Warren G. Muddling Toward Frugality, Shambhala, Boulder, 1979.

Knight, Richard V. The Region's Economy: Transition to What? Cleveland State University, 1980.

Linden, S. B. The Harried Leisure Class, Columbia University Press, 1971.

Lifton, Robert Jay, The Life of the Self, Simon & Schuster, NY, 1976.

Marien, Michael, "Daniel Bell and the End of Normal Science," The Futurist, December 1973.

Masuda, Yoneji, The Information Society as Post Industrial Society, World Future Society, Washington, D.C., 1981.

Mensch, Gerhard, Stalemate in Technology, Ballinger Publishing Company, Cambridge, 1982.

National Research Council, Critical Issues for National Urban Policy, National Academy Press, Washington, D.C., 1982.
National Academy

Niebuhr, Herman, "A Renewal Strategy for Higher Education," Temple University, 1979.

Nevin, John, slide presentation, Akron Roundtable, 1982.

Ouchi, William G. Theory Z, Avon, New York, 1981.

O'Toole,

Phillips, Kevin, Post Conservative America, Unpublished manuscript.

Ogilvy, James, Many Dimensional Man, Decentralizing Self, Society and the Sacred, Harper, NY, 1979.

Schwartz, P., Ogilvy, J., Hawken, P., Seven Tomorrows, Toward A Voluntary History, Bantam Books, NY 1982.

Stokes, Bruce

Toffler, Alvin, The Third Wave, NY, Bantam, 1981.

U.S. G.P.O., Urban America in the Eighties, Perspectives and Prospects, Washington, D.C., 1980.

Yankelovich, D. "A World Turned Upside Down," Psychology Today, April 1981.

Young, M. and Willmott, P., The Symmetrical Family, Pantheon, NY 1973.